C. REMARKS/ARGUMENTS

1. Information Disclosure Statement

The Examiner stated that the information disclosure statement (IDS) filed 04/01/2005 fails to comply with 37 CFR 1.98(a) because it does not include a concise explanation of the relevance (as presently understood by the individual designated in 37 CF 1.56(c) most knowledgeable about the content of the information), of each patent listed that is not in the English language.

Applicant responds that each of the references listed in the IDS includes an abstract in English, which provides the requisite concise explanation of the relevance of each patent listed that is not in the English language.

Applicant further responds that a copy of the translation of the foreign references, mentioned in 37 CFR 1.98(a)(3)(ii), is not readily available to any individual designated in 37 CF 1.56(c).

2. Rejection of Claims 32 Under 35 U.S.C. § 102(b)

Claim 32 stands rejected under 35 U.S.C. § 102(b) as being anticipated by US Pat. No. 5,310,794 to Ritchey ("Ritchey"). Applicant respectfully traverses, for reasons set forth below.

Section a) below provides a general overview of the differences between Ritchey and the subject matter of claim 32. Section b) below explains in more detail why claim 32 is not anticipated by 35 U.S.C. § 102(b), i.e. discusses the specific limitations of claim 32 that are neither taught nor suggested by Ritchey.

a) Overview of Differences Between Ritchey and Claim 32

Ritchey is directed to a display system that displays a recorded image of a panoramic scene. In this recorded image, the panoramic scene itself does not change as a result of any interaction between an individual and an environment.

Such a display system is fundamentally different from the interactive environment that is claimed and described by Applicant, because in Applicant's system, the contents of the image(s) change as a result of interaction(s) between an individual and the environment in which the individual is found.

Among other things, Applicant claims in claim 32 (and describes in the specification) the following features: 1) one of the walls (that create an environment within which the individual is found) is the display on which the image appears; and 2) the contents of the image change based on the interaction between the environment created by the walls and the individual, rather than being predetermined. For example, if an individual takes a plurality of displacement steps within the environment, such steps would be detected by a sensor, and the images would change as a function of such steps that are taken. The changed images would now show the plurality of displacement steps that were taken by the individual.

The above features are not disclosed in Ritchey. In Ritchey, no wall is disclosed which is the display itself, and at the same time (together with other releasablye connected walls) creates an environment. Also, in Ritchey the image of the panoramic scene is a pre-recorded image, the contents of which do not change based on any interaction between an individual and an environment created by a set of walls, one of which is the display itself.

When the viewer moves his head in Ritchey, the only thing that changes is the field of view of the panoramic image, i.e. the portion of the image that the user is able to see from his HMD. By moving his head, the viewer gets to see a different portion of the panoramic image, which is too large to fit within his HMD all at once. The panoramic image itself however remains unchanged, the panoramic scene being exactly the same as before the motion of the viewer's head. The only result of the viewer's movement is that a different portion of the pre-recorded panoramic image appears within the viewer's line of view.

In contrast to Applicant's system, therefore, the contents of the panoramic image do not change to show any interaction between the individual and the environment. For example, even if the viewer in Ritchey moves his head, the panoramic image does not change to show such a movement (or some visible result of such a movement) within the image itself.

b) Claim 32 is not Anticipated by Ritchey Under 35 U.S.C. § 102(b)

Claim 32 (as currently amended) is set forth below:

A modular, interactive environment comprising:

a set of modular walls that releasably connect to and disconnect from one another to facilitate the assembly, disassembly, shipment and re-assembly of the interactive environment in various different configurations, at least one of the walls being a computer-controlled display configured such that images on the display appear to an individual within the environment created by the walls to be real, three-dimensional and an integral and seamless part of the environment;

at least one sensor configured to sense an interaction between the individual and the environment created by the modular walls; and

a processing system in communication with the sensor and the display and configured to deliver to the display one or more images whose contents change based on the interaction between the individual and the environment as sensed by the at least one sensor.

Applicant respectfully submits that Ritchey does not anticipate the invention as recited in amended independent claim 32, because Ritchey does not teach or suggest at least the following limitations of claim 32:

1) a set of modular walls that releasably connect to and disconnect from one another . . . at least one of the walls being a computer-controlled display . . . .;
2) a processing system . . . configured to deliver to the display one or more images whose contents change based on the interaction between the individual and the environment . . . .

Regarding limitation 1) above, Ritchey does not teach or suggest any set of modular walls that releasably connect to and disconnect from one another, at least one of which is a computer-controlled display. This feature cannot be found anywhere in Ritchey.

Regarding limitation 2) above, Ritchey also does not teach or suggest any processing system that is configured to deliver to the display one or more images whose contents change based on the interaction between the individual and the environment, the environment being created by a set of modular walls.

As described in Ritchey and as referenced by the Examiner, Ritchey displays an image of a pre-recorded panoramic scene (". . . *the optical and camera arrangements disclosed in Figs. 6-17 may transmit their* ***recorded*** *image to various types of sensors* . . . . "), not an interactive scene that changes because of an interaction between an individual and an environment. In Ritchey, an individual would not be able to change the contents of the panoramic scene, e.g. by picking a flower in the panoramic scene.

As further referenced by the Examiner, ". . . *as the viewer/operator moves his head, the updated coordinates cause the multipliers and adders of the video effects unit (7) to update the field of view every 8 frames [col. 21, lines 8-28].*" As explained above, Applicant submits that in Ritchey the motion of the viewer only causes the field of view of the panoramic image (i.e. the portion of the image that the user is

able to see from his HMD) to change, but the image itself does not change because of the interaction. When the viewer moves his head, for example, a different portion of the panoramic scene (too big to entirely fit within the viewer's HMD) moves into his line of view. But it's a different portion of the same image.

For the reasons set forth above, Applicant submits that Ritchey fails to teach or suggest at least the above-discussed limitations of amended claim 32, and therefore that amended claim 32 is not anticipated under 35 U.S.C. 102 (b).

3. Rejection of Claims 1-20, and 29 Under 35 U.S.C. § 103(a)

Claims 1-20 and 29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over US Pat. No. 5,310,794 to Richey ("Richey") in view of U.S. Publication No. US 2003/0032484A1 to Oshima et al. ("Oshima"). Applicant respectfully traverses.

Claim 1

Applicant has made a stylistic amendment to claim 1 (see section B), to more clearly articulate (style-wise) the differences between the subject matter of claim 1 and the cited references. No new matter has been added by this amendment, which merely repeats at the end of the claim earlier limitations, for clarification purposes. This amendment was not made for any reason related to patentability. This amendment relates to solely to style and format, not to any substantive subject matter.

Amended claim 1 is set forth below:

1. (Currently amended) An interactive environment that is partially real and partially simulated comprising:

a structure that is large enough to accommodate an individual both before and after the individual takes a plurality of displacement steps within the structure;

at least one real, three-dimensional object positioned within the structure, the real object and the structure cooperating to form a seamless and integrated scene;

at least one computer-controlled display fixedly positioned within the scene such that each image displayed by the display appears to the individual in the scene to be real, three-dimensional and an integral and seamless part of the scene;

at least one sensor configured to sense an interaction between the individual and the scene while the individual is in the scene; and

a processing system in communication with the sensor and the display and configured to deliver a sequence of images to the display, the content of which are a function of the interaction between the individual and the scene sensed by the sensor, including a plurality of displacement steps taken by the individual within the structure that cooperates with the real object to form the scene within which the computer-controlled display is fixedly positioned.

Neither Ritchey nor Oshiima, either alone or in combination, teaches or suggests the subject matter of amended claim 1. At least the following limitation of cannot be found in Ritchey and/or Oshiima, either alone or in combination:

a processing system . . . configured to deliver a sequence of images to the display, the content of which are a function of the interaction between the individual and the scene . . . including a plurality of displacement steps taken by the individual within the structure that cooperates with the real object to form the scene within which the computer-controlled display is fixedly positioned.

Ritchey

Ritchey does not teach or suggest the above limitation, for all of the reasons discussed in detail in section C-1 above. In Ritchey, the contents of the images do

not change as a function of an interaction between an individual and a scene, and in particular not as a result of a plurality of displacement steps taken by the individual within a structure that cooperates with a real object to form a scene within which a computer-controlled display is fixedly positioned.

Oshiima

Oshiima also does not teach or suggest the above limitation. Oshiima relates to a gaming apparatus that allows a player to manipulate real and virtual objects, so that the virtual object moves or acts in response to movements/actions of a real object.

In particular, in Oshiima there is no processing system that delivers images whose contents are a function of an interaction that includes a plurality of displacement steps taken by the individual within a structure that cooperates with a real object to form a scene within which the computer-controlled display is fixedly positioned. In Oshiima, the display is a head-mounted display device, mounted on the head of the player. Therefore, the display is not fixedly positioned within a scene formed by a cooperation between a large structure (enclosing an individual) and a real object within that large structure. In Oshiima, the images do not change as a result of any steps taken by an individual within a large structure that forms a scene within which the display is fixedly positioned.

More generally, in Oshiima there is no processing system that delivers a sequence of images to a display that is fixedly positioned within a scene which is formed by a cooperation between a large structure and a real object therewithin. None of the passages in Oshiima referenced by the Examiner, nor any other part of Oshiima, discloses such subject matter.

For these reasons, Applicant submits that amended independent claim 1 is not obvious under 35 U.S.C. § 103 over Ritchey in view of Oshiima.

Claims 2-20, 29

"If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." MPEP 2143.03; In re Fine, 837 F.2d 1071, 2 USPQ2d 1596 (Fed. Cir. 1988).

Claims 2-20 and 29 all depend on claim 1, and therefore include all the limitations of claim 1. Because amended independent claim 1 is nonobvious under 35 U.S.C. 103 over Ritchey in view of Oshiima, it follows that claims 2-20 and 29 (all depending from claim 1) are also nonobvious under 35 U.S.C. §103.

4. Rejection of Claims 21-28 under 35 U.S.C. 103 (a)

Claims 21-28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ritchey in view of Oshiima, and further in view of U.S. Pat. No. 5,086,385 to Launey et al.

Applicant respectfully traverses, and submits that Ritchey, Oshiima, and Launey, either alone or in combination, fail to teach or suggest the subject matter recited in claims 21-28.

Claims 21-28 all depend on claim 1, and therefore include all the limitations of claim 1.

As explained above, the combination of Ritchey and Launey does not teach or suggest at least the following limitation of claim 1:

a processing system . . . configured to deliver to the display a sequence of images, the content of which are a function of the interaction between the individual and the scene . . . including a plurality of displacement steps taken by the individual within

the structure that cooperates with the real object to form the scene within which the computer-controlled display is fixedly positioned.

For all the reasons discussed above (in section C-3), the combination of Ritchey and Oshiima fails to teach or suggest the above limitation of claim 1. Launey fails to correct this deficiency.

Launey is directed to a home automation system, and does not relate to the interactive environment recited in claim 1. In particular, Launey does not teach or suggest a processing system configured to deliver a sequence of images to the display, the content of which are a function of the interaction between the individual and the scene, including a plurality of displacement steps taken by the individual within the structure that cooperates with the real object to form the scene within which the computer-controlled display is fixedly positioned.

Accordingly, the combination of Ritchey, Oshiima, and Launey fails to teach or suggest at least the above-discussed limitation of claim 1.

Claims 21-28 all depend on claim 1, and therefore include all the limitations of claim 1. Accordingly, it follows that claims 21-28 are also not obvious under 35 U.S.C. §103 over Ritchey in view of Oshiima and further in view of Launey.

5. Conclusion

On the basis of the foregoing amendments, Applicant respectfully submits that all of the pending claims are in condition for allowance. An early and favorable action is therefore earnestly solicited.

Respectfully submitted,

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